

EPA Response to Hurricane Harvey

Carl Edlund
Director, Superfund Division
Region 6

10/18/2017



HARVEY'S HISTORY

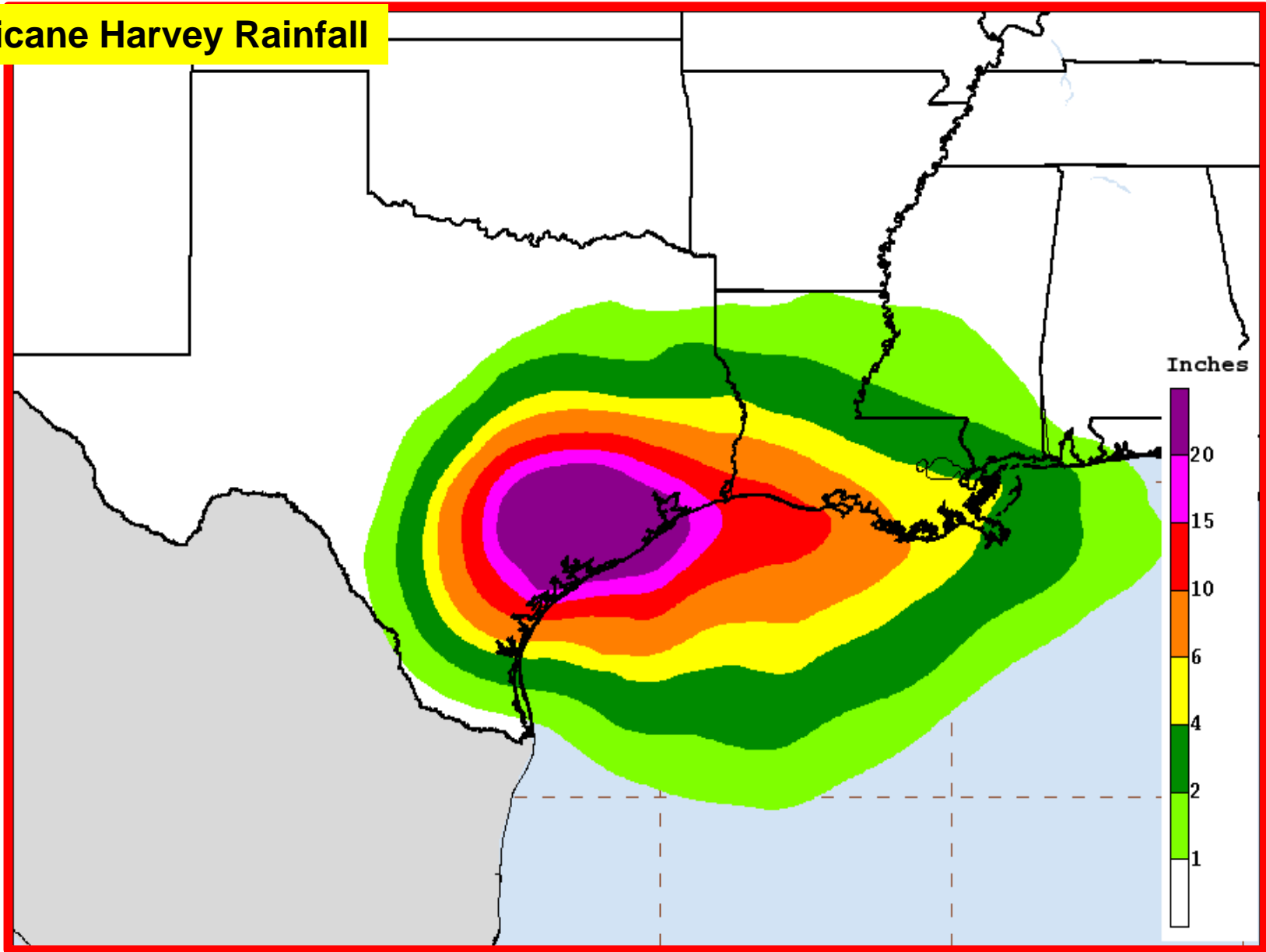
AUGUST 2017



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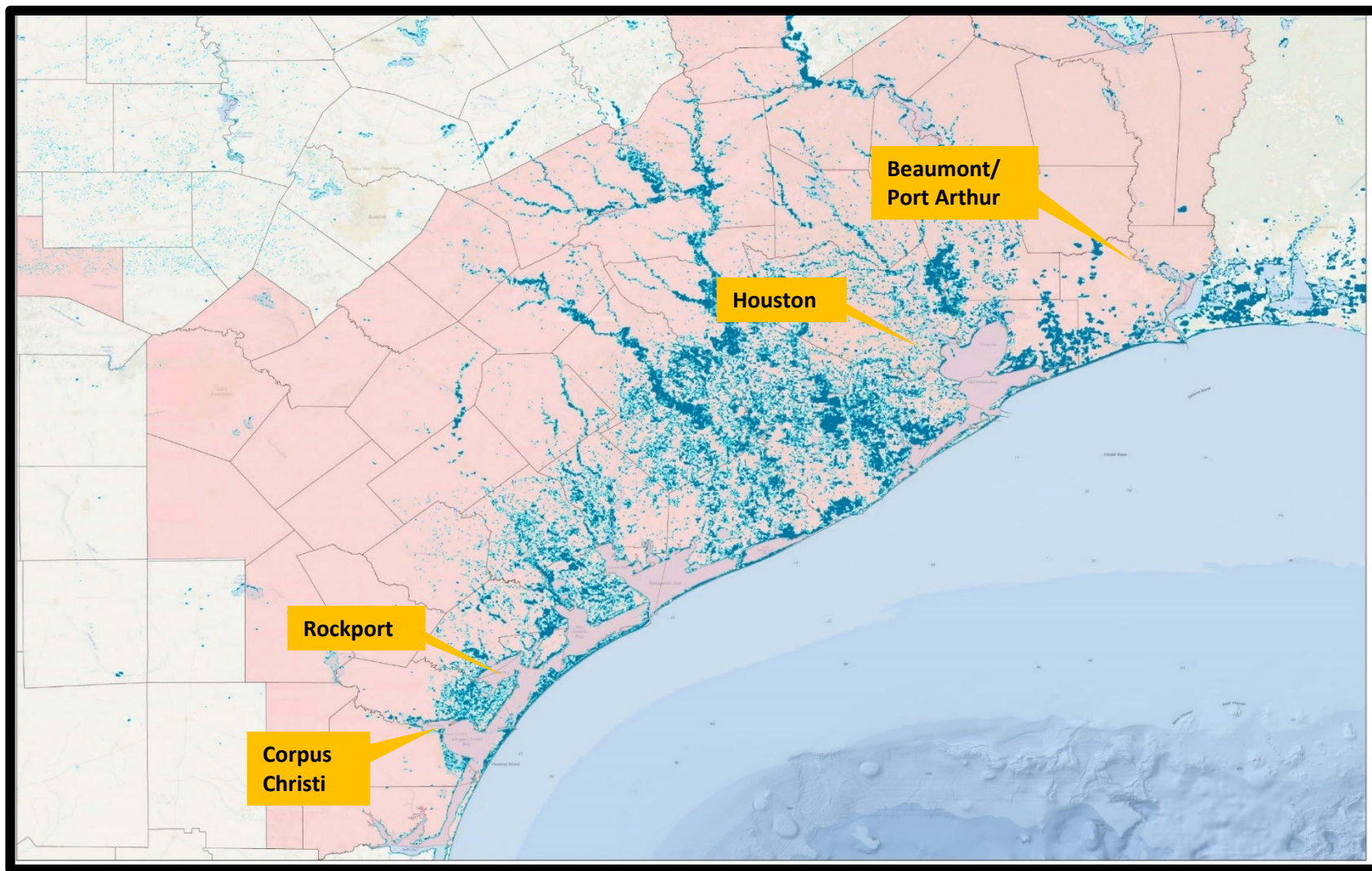
Hurricane Harvey Rainfall



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Hurricane Harvey Flooding



10/18/2017



UNIFIED COMMAND

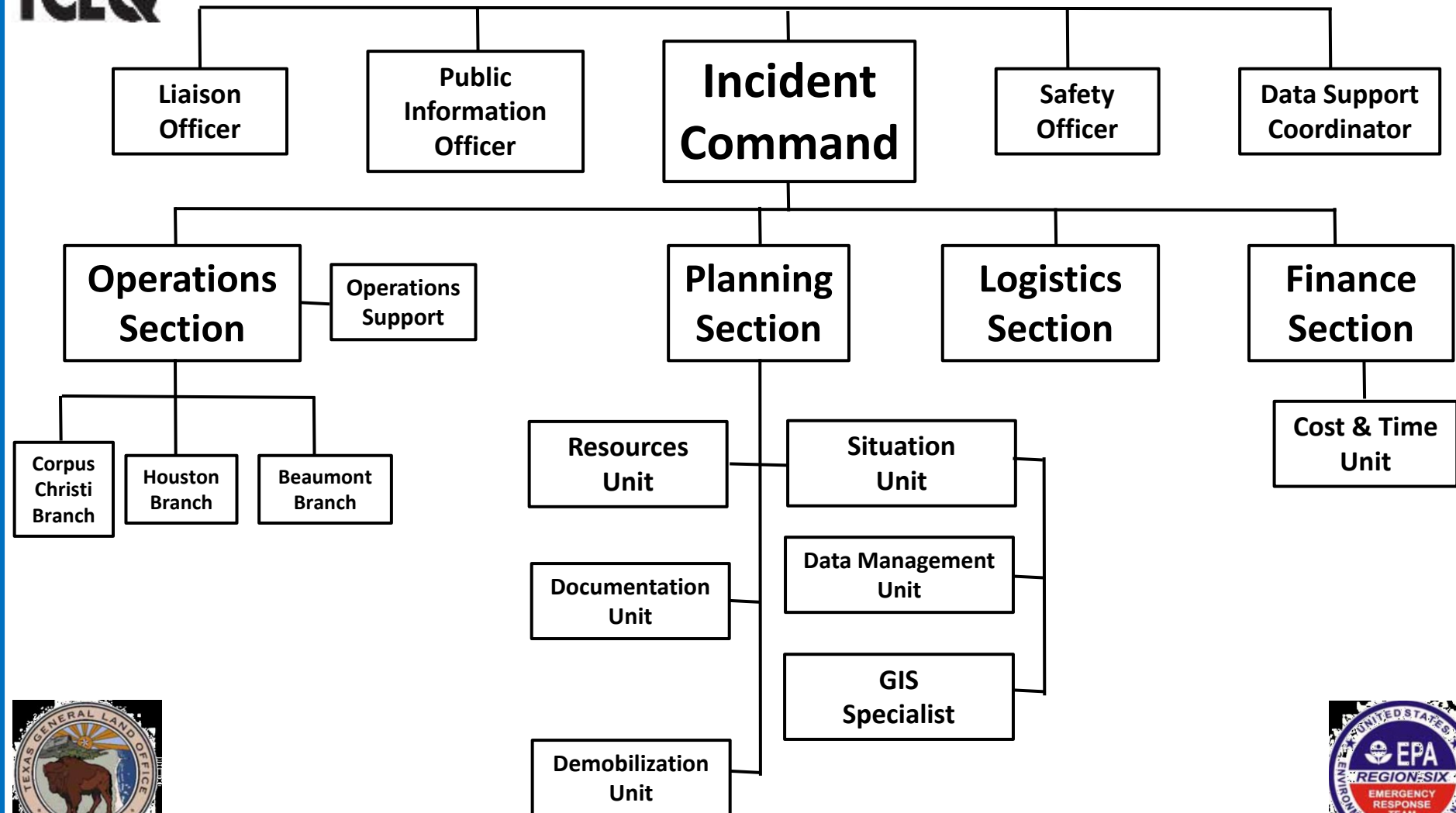


RESPONSE OBJECTIVES

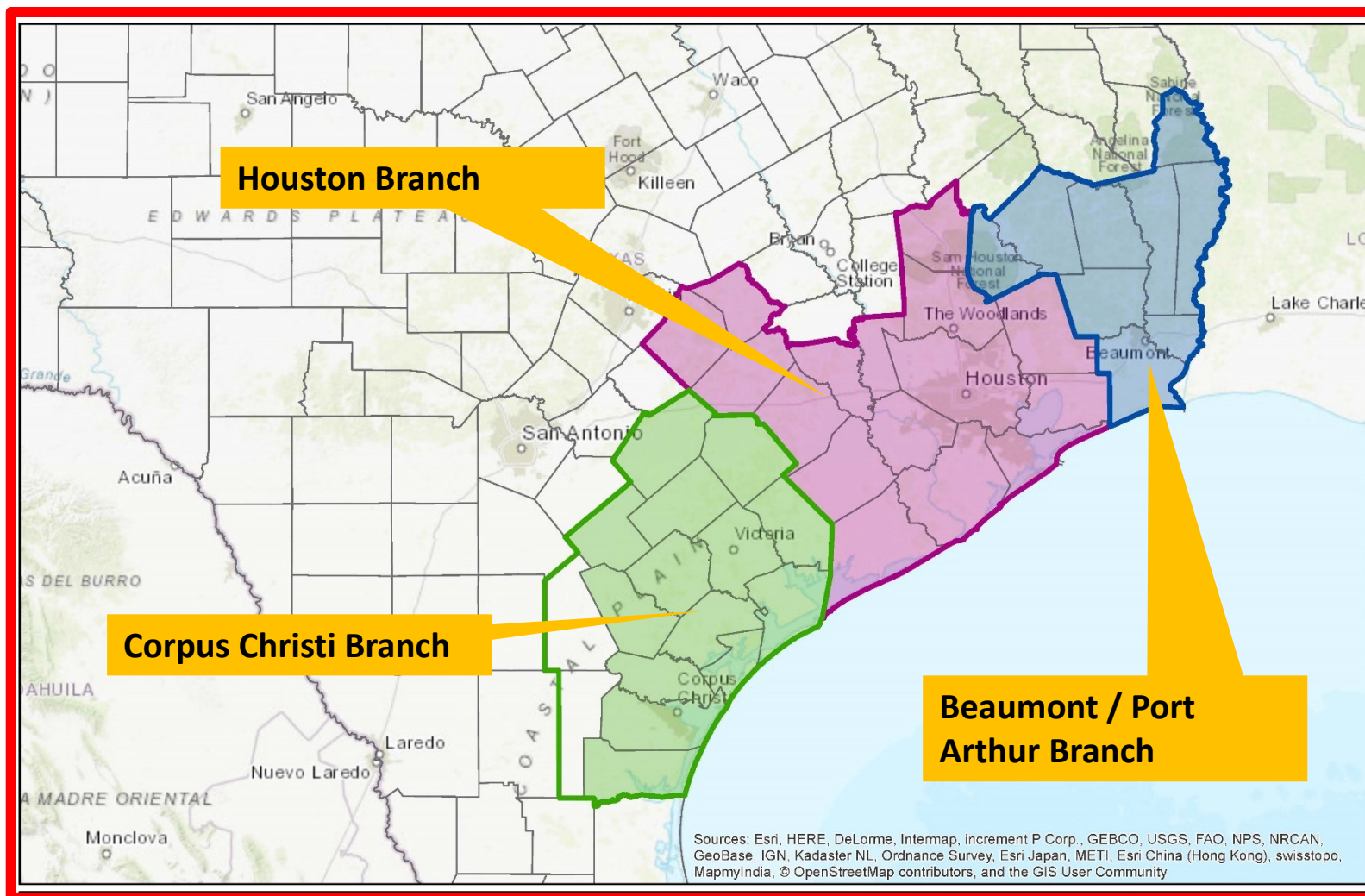
- Maximize protection of public, health, and safety.
- Coordinate response effort through the Unified Command.
- Drinking water and wastewater systems
- Orphaned containers or discharges
- Identify and address pollution targets.
- Critical infrastructure, chemical, and refining facilities
- Inform the public, stakeholders, and the media of response
- Deploy unique EPA assets to support the unified command
- Secure Superfund sites



Unified Command Organization Chart



EPA Resources





Unified Command Mobile Command Post

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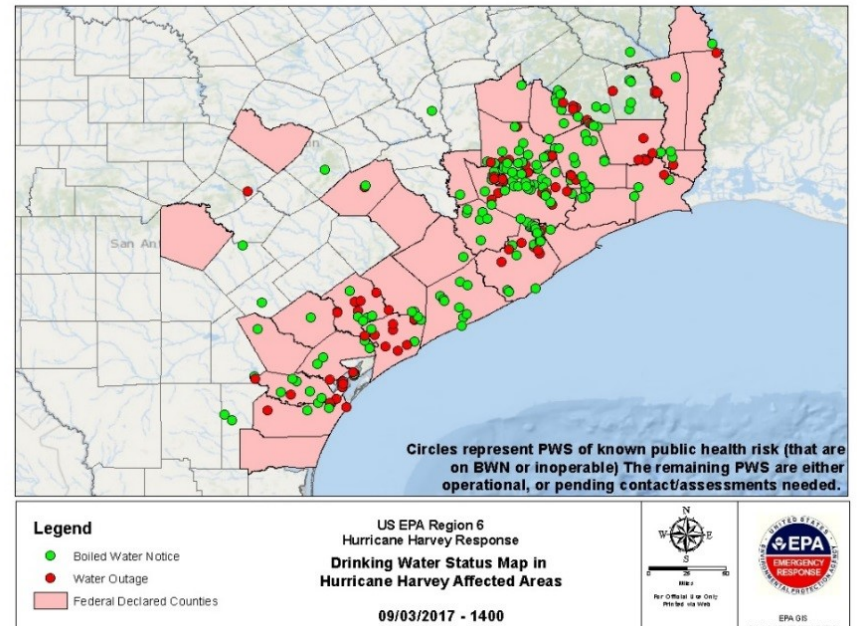
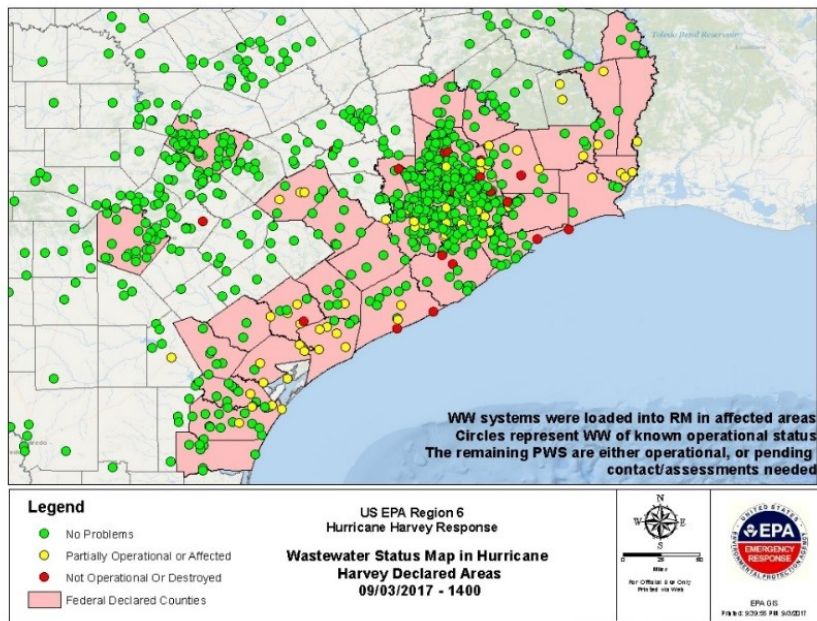
Command & General Staff Meeting



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Drinking Water / Waste Water Assessments



Orphaned Container Recovery

Port Arthur Orphan
Container Recovery



Corpus Christi Orphan
Container Recovery –
Port Aransas

Corpus Christi – EPA OSCs
Sampling Drums at Pad in Level B



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Support to TCEQ / Staging Area Observers



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Superfund Sites



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ASPECT Activities

- DHS and DOE requested monitoring
- Pipelines
- Refineries
- Releases at chemical and oil facilities
- Releases and orphan containers

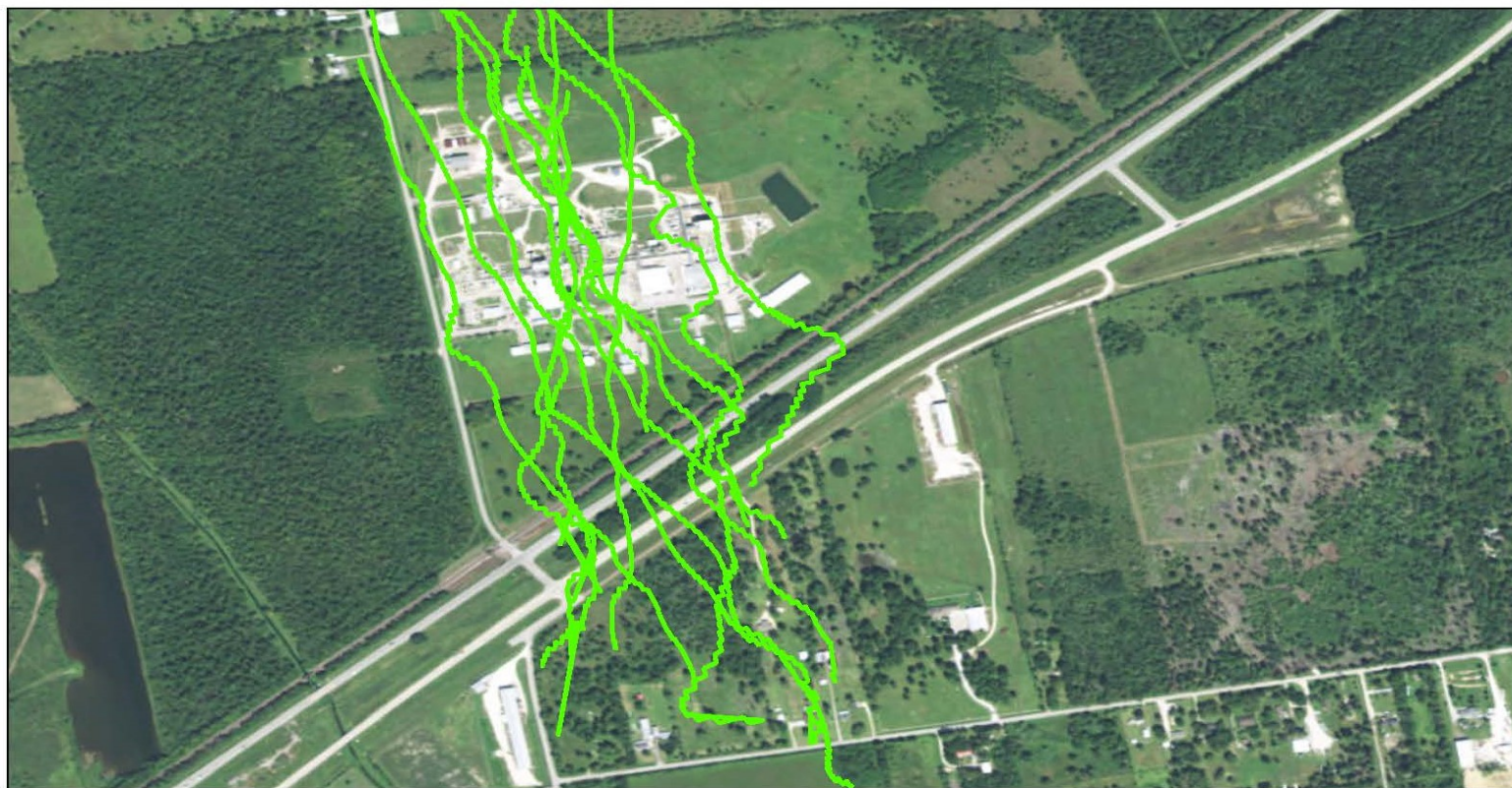


Arkema Chemical Facility, Crosby, TX



10/18/2017





Chemical Compounds	Short-term AMCV (ppm)
1,1-dichloroethane	1.0
1-butene	27
acetone	11
dichlorodifluoromethane	10
ethyl acetate	4
ethylene	500
isobutane	33
methyl ethyl ketone	20
methylene chloride	3.4
n-butyl acetate	7.4
n-propyl acetate	2
propylene	Simple Asphyxiant
vinyl chloride	27

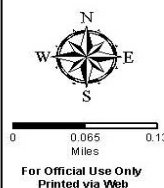
Legend

— No Readings Above Benchmarks

What's an AMCV?

AMCV is a collective term used to describe chemical-specific air concentrations used to evaluate air monitoring data that are set to protect human health and welfare. Short-term AMCVs are based on data concerning acute health effects. AMCVs may contain health-based Reference Values (RVs) and health- and welfare-based ESL values. AMCVs are screening levels used in TCEQ's evaluation of ambient air monitoring data to assess the potential for measured concentrations of specific chemicals to cause health or welfare effects. Health-based AMCVs are safe levels at which exposure is unlikely to result in adverse health effects. ESLs are screening levels used in the TCEQ's air permitting process to establish maximum emission rates that are written into enforceable air permits. Health-based ESLs are set 70 percent lower than the safe level, or AMCV. This additional buffer allows TCEQ to take into account exposure to chemicals from multiple sources in air permit reviews.

USA EPA REGION 6 Flight 13 ASPECT



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ASPECT Flights over Arkema

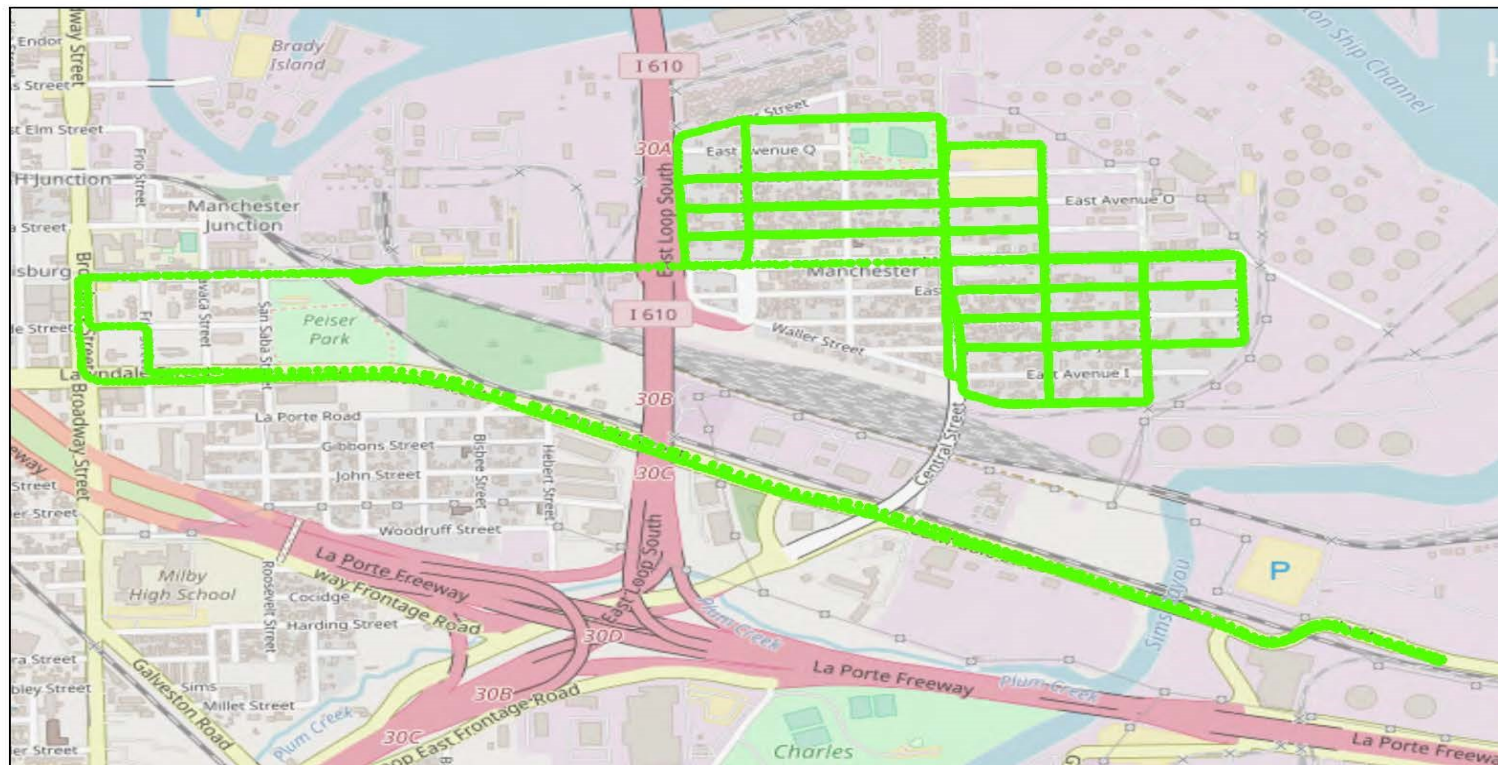
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TAGA Activities



- Refinery monitoring
- Sensitive community monitoring
- Chemical manufacturing corridor monitoring



Substance	CAS #	Short-term AMCV Health (ppb)
1,1-dichloroethylene	75-35-4	180
benzene	71-43-2	180
m/p-xylene	179601-23-1	1700
o-xylene	95-47-6	1700
tetrachloroethylene	127-18-4	1000
toluene	108-88-3	4000
trichloroethylene	79-01-6	100

Legend

- No Readings Above Benchmarks

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USA EPA REGION 6 TAGA Runs on 20170905



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TAGA Product

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PHILIS Activities

- On- Site Release assessment of analytical services
- Staging area sampling services
- Superfund site assessment analytical services



Community Liaisons



10/18/2017



Accomplishments

- 648 Hazard Evaluations completed and closed
- 256 spills/discharge investigation completed
- 1,055 orphan containers recovered
- 625 drinking water assessments completed
- 441 waste water assessments completed
- Daily aerial over-flights for air monitoring
- Fuel waivers and No Action Assurance letters issued to support response/recovery activities

